

Integrated Safety Management To address some weaknesses identified during an independent assessment of integrated safety management related to accelerator safety the below required reading is being issued. The purpose of this required reading is to increase awareness of how ISM is applied at the facility level, not only the task and hazard level. Certain JLab staff are to read this e-mail as a means to become familiar with these important aspects of the JLab safety program. For some this will be a refresher, for others this may be new information. If you have any questions please contact Craig Ferguson (X7447) or Bob May (X7632).

Integrated Safety Management at the Facility level –We routinely use the ISM core functions for activities and tasks. This

also applies at the facility level, such as the design, construction, operation and maintenance of the CEBAF, FEL, Test Lab, etc. The same ISM core functions apply:

1. Define the Scope
2. Analyze the Hazards
3. Develop and Implement Controls
4. Perform work within controls
5. Provide Feedback for Continuous Improvement

In particular, the scope, hazards analysis and control development and implementation were completed and institutionalized as either engineered or administrative controls. Shielding, for example, is a passive engineered control installed for the protection of the staff, public and environment. Our administrative controls include Accelerator Operating Directives, Standard Operating Procedures, ES&H Manual chapters, Experimental Safety Assessment Documents, etc. Worker involvement and responsibility for safety are key aspects of ISMS. Jefferson Lab processes for work planning and control rely on active worker involvement (including pre-shutdown meetings, hazard identification/evaluation, and control measure implementation) to insure that the workers involved with the activities understand the hazards, the specified controls, and management expectations for working safely. The scope and focus of ESH&Q roles and responsibilities for work performed by all Jefferson Lab workers are discussed in ES&H Manual 2210, ESH&Q Rights and Responsibilities of Individuals

<http://www.jlab.org/ehs/manual/PDF/2210EHSResponsibilities.pdf> It is the responsibility of each Jefferson Lab worker (including our physics users and subcontractors) to be aware of the responsibilities delegated to them, hold themselves accountable for their own safety, and the safety of all those around them.

FSAD (Final Safety Assessment Document) -The Accelerator Safety Order (DOE O 420.2B) requires Jefferson Lab to analyze (identify and quantify) major facility hazards with onsite and off site impacts and specify the associated hazard mitigations, such as engineered and administrative controls, for major facility components and their operation. The Order requires us to develop and maintain a current safety assessment document (such as the Lab's FSAD) that describes how Jefferson Lab conducts operations and remains within safe operating parameters. The FSAD is a graded approach to DOE requirements to develop a "safety authorization basis" for accelerator facilities and contains accelerator-specific safety requirements. Jefferson Lab's FSAD addresses the above requirements and contains a DOE Site Office approved accelerator safety envelope (ASE). The ASE defines the bounding conditions for safe CEBAF and FEL operations based on the FSAD's safety analyses. Jefferson Lab's FSAD is currently in its fifth revision. The revisions cover many important changes including the addition of the FEL, DOE approved changes to the ASE, and updates on hazards such as new electrical safety requirements. The Accelerator Operations Directives (AOD) document governs accelerator operations and sets requirements that keep Jefferson Lab accelerators operating within the ASE. **Unreviewed Safety Issue (USI) Process -Activities that involve the Lab's USI process must not** be performed if significant accelerator safety consequences could result from either an accident or a malfunction of equipment that is important to safety. Activities involving USIs must not commence before the DOE Site Office has provided written approval. The USI process applies to planning and conducting all CEBAF and FEL work, modifications, and system changes in the accelerator tunnel/service buildings, the experimental halls, the FEL vault, or the FEL labs. Reviews of work or discoveries that have the potential to create USIs are to be documented whether or not the follow-up identifies a potential or actual USI. Typical examples of systems that a change could result in a USI are radiation/Oxygen Deficiency Hazard (ODH) instrumentation, beam dumps, engineered shielding, Personnel Safety System (PSS), or the Beam Envelope Limit System (BELS). If you suspect that any actual OR planned system activities have the potential to violate a CEBAF or FEL ASE, immediately contact your supervisor and Division Safety Officer. For additional ASE information, see pages 3 through 5 at http://www.jlab.org/div_dept/dir_off/oa/secure/CombinedSafetyEnvelopeApril2007.pdf

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